

1. A connector comprising:

a signal array having at least one shielded conductor having opposite ends and including an axial conductive element and an outer conductive element surrounding the axial conductive element;

a compressible interface element positioned at least one of the opposite ends of the signal array, the interface element including a layer of insulating material having a plurality of conductive elements extending through the insulating material layer;

the compressible interface element, when compressed between the signal array and a signal bearing component, maintaining the geometric arrangement of the axial conductive element and the outer conductive element to the signal bearing component.

2. The connector of claim 1 wherein the at least one shielded conductor is a length of semi-rigid coax.
3. The connector of claim 1 wherein the at the at least one shielded conductor is a length semi-rigid twinax.
4. The connector of claim 1 further comprising a fastener used to compress the compressible interface element to maintain the geometric arrangement of the axial conductive element and the outer conductive element through the insulating material layer to the signal bearing component.
5. The connector of claim 1 further comprising:
  - a signal bearing component including at least one land area;
  - the land area configured for coupling with the axial conductive element and the outer conductive element of the shield conductor.
6. The connector of claim 1 further comprising:
  - a second compressible interface element positioned at the other of the opposite ends of the signal array, the second interface element including a layer of insulating material having a plurality of conductive elements extending through the insulating material layer;
  - the second compressible interface element, when compressed between the signal array and a second signal bearing component,

maintaining the geometric arrangement of the axial conductive element and the outer conductive element to the second signal bearing component.

7. The connector of claim 6 wherein the first signal bearing component is a circuit board including at least one land area;

the land area configured for coupling with the axial conductive element and the outer conductive element of the shield conductor.

8. The connector of claim 7 wherein the second signal bearing component is a circuit board including at least one land area;

the land area configured for coupling with the axial conductive element and the outer conductive element of the shield conductor;

the land areas on the first and second circuit boards corresponding.

9. The connector of claim 8 wherein the first and second circuit boards are substantially parallel.

10. The connector of claim 8 wherein the circuit boards are substantially orthogonal.

11. The connector of claim 10 further comprising at least one fastener to compress the first compressible interface element between the first circuit board and the signal array.

12. The connector of claim 11 further comprising a latch coupled to the first circuit board and configured to press the signal array against the second circuit board compressing the second compressible interface element.

13. The connector of claim 1 wherein the signal array includes multiple shielded conductors.

14. The connector of claim 13 wherein the multiple shielded conductors are molded into at least one block.

15. The connector of claim 14 wherein a contact surface of the block is machined.

16. The connector of claim 14 wherein a guide pin is molded into the block, the guide pin configured to aid in alignment of the shielded land areas and the axial conductive element and the outer conductive element of the shield conductor.

17. The connector of claim 13 further comprising a clip;  
the multiple shielded conductors molded into multiple blocks;  
the clip configured to hold the multiple blocks in alignment under pressure.

18. The connector of claim 13 wherein the multiple shielded conductors are coupled to at least one wafer.

19. The connector of claim 13 wherein the multiple shielded conductors are molded to multiple wafers forming mounting ends on each wafer.

20. The connector of claim 19 wherein a contact surface of the mounting ends is machined.

21. The connector of claim 19 wherein a guide pin is molded into one of the mounting ends, the guide pin configured to aid in alignment of the shielded land area and the axial conductive element and the outer conductive element of the shield conductor connector.

22. The connector of claim 1 wherein the compressible interface element is constructed of silicon rubber with anisotropic conductive properties.

23. The connector of claim 1 wherein the conductive elements of the compressible interface element are 300 to 2,000 fine metal wires per square centimeter.

24. The connector of claim 23 wherein the fine metal wires are gold-plated to ensure low resistivity and the ability to withstand relatively high current flow.

25. A frame comprising a backplane including at least one shielded land area configured for coupling to a signal array including at least one shielded conductor having an axial conductive element and an outer conductive element surrounding the axial conductive element.

26. The frame of claim 25 further comprising:

a compressible interface element positioned over the shielded land area, the interface element including a layer of insulating material having a plurality of conducting elements extending through the insulating material layer;

the compressible interface element, when compressed between a signal array and the backplane, maintaining the geometric arrangement of the axial conductive element and the outer conductive element to the backplane.

27. The frame of claim 26 further comprising:

a component including:

at least one shielded land area configured for coupling to a signal array including at least one shielded conductor including an axial conductive element and an outer conductive element surrounding the axial conductive element; and,

a compressible interface element positioned over the shielded land area, the interface element including a layer of insulating material having a plurality of conducting elements extending through the insulating material layer;

the compressible interface element, when compressed between the signal array and the component, maintaining the geometric arrangement of the axial conductive element and the outer conductive element to the component.



28. The frame of claim 27 further comprising slides configured to receive the component, the slides aiding in alignment of the axial conductive element and the outer conductive element and the shielded land area of the backplane.

29. A connector assembly comprising:
- a component including at least one shielded land area;
  - a signal array including at least one shielded conductor having an axial conductive element and an outer conductive element surrounding the axial conductive element;
  - a compressible interface element including a layer of insulating material with opposing faces and a plurality of individual conductive elements extending from face to face through the insulating material layer;
  - the compressible interface element compressed between the component and the signal array to couple the shielded land area and the signal array to simultaneously pass a signal from both the axial conductive element and the outer conductive element to the land area of the component.

30. The connector assembly of claim 29 wherein the component is a circuit board.

31. A connector assembly comprising:
- a circuit board including a shielded land area; and,
  - a compressible interface element positioned over the shielded land area, the interface element including a layer of insulating material having a plurality of conductive elements extending through the insulating material;
  - the compressible interface element translating signals of the shielded land area.

32. The connector assembly of claim 31 wherein the shielded land area is coaxial.

33. The connector assembly of claim 31 wherein the shielded land area is twinaxial.

34. The connector assembly of claim 31 further comprising a signal array having at least one shielded conductor having opposite ends and including an axial conductive element and a outer conductive element surrounding the axial conductive element;

the compressible interface element simultaneously translating signals of the shielded land area and the axial conductive element and the outer conductive element on one end of the shielded conductor.

35. The connector assembly of claim 34 further comprising a second compressible interface element positioned over the other end of the shielded conductor, the interface element including a layer of insulating material having a plurality of conductive elements extending through the insulating material;

the second compressible interface element translating signals of the shielded conductor.

36. A method of interconnecting a circuit board comprising:

- etching at least one land area in a shielded configuration on the circuit board;
- positioning one face of a compressible interface element of insulating material with opposing faces and conductive elements extending face to face over the land area;
- positioning one end of a shielded conductor in a signal array having opposing ends and including an axial conductive element and an outer conductive element surrounding the axial conductive element over the compressible interface element;
- aligning the axial conductive element and the outer conductive element with the land area; and,
- fastening the signal array to the circuit board compressing the compressible interface element.

37. The method of claim 36 wherein the at least one shielded conductor is a length of semi-rigid coax.

38. The method of claim 36 wherein the at least one shielded conductor is a length of semi-rigid twinax.

39. A method of interconnecting two circuit boards comprising:

- etching corresponding shielded land areas on first and second circuit boards;
- positioning a signal array having at least one shielded conductor having opposite ends and including an axial conductive element and an outer conductive element surrounding the axial conductive element between the first and second circuit boards;
- positioning a first compressible interface element including a layer of insulating material having a plurality of conductive elements extending through the insulating material layer intermediate the shielded land area on the first circuit board and one end of the shielded conductor in the signal array;
- positioning a second including a layer of insulating material having a plurality of conductive elements extending through the insulating material layer intermediate the shielded land areas on the second circuit board and the other end of the shielded conductor in the signal array; and,
- fastening the two circuit boards together to compress the compressible interface elements electrically coupling the circuit boards.



40. The method of claim 39 wherein the at least one shielded conductor is a length of semi-rigid coax.

41. The method of claim 39 wherein the at least one shielded conductor is a length of semi-rigid twinax.

42. A method of interconnecting two circuit boards comprising:

- etching corresponding land areas in a shielded configuration on first and second circuit boards;
- positioning one face of a compressible interface element including a layer of insulating material with opposing faces and conductive elements extending face to face over the land area on the first circuit board;
- positioning one end of shielded conductor of a signal array including at least one shielded conductor having opposite ends and including an axial conductive element and an outer conductive element surrounding the axial conductive element over the other face of the compressible interface element;
- aligning the axial conductive element and the outer conductive element with the shielded land area;
- fastening the signal array to the circuit board with the compressible interface element between the signal array and the circuit board;
- positioning one face of a second compressible interface element including a layer of insulating material with opposing faces and conductive elements extending face to face over the land area on the second circuit board;
- aligning the axial conductive element and the outer conductive element with the shielded land area on the second circuit board; and,

applying pressure to the first circuit board to compresses the second compressible interface element between the signal array and a second circuit board.

43. The method of claim 42 wherein the at least one shielded conductor is a length of semi-rigid coax.

44. The method of claim 42 wherein the at least one shielded conductor is a length of semi-rigid twinax.